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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,446	06/15/2000	Michael A. Gaynes	EN997170C	9250

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EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 10/31/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/593,446

Applicant(s)

GAYNES ET AL.

Examiner

Hai Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31,32 and 34-38 is/are rejected.
- 7) ☒ Claim(s) 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: .

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1. Claims 28-30 have been cancelled in the amendment received on 08/26/2002.

***Claim Objections***

2. Claim 37 is objected to because of the following informalities: the term "silicon" needs to be changed to --silicone--. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 31 is rejected under 35 U.S.C. 102(b) as anticipated by Kunz (US 4,803,124) or Yoshida et al (US 5,187,123). The recitation "for fabricating large large liquid crystal displays" is treated as the intended-use limitation. It has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art die attachment satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Further, the language of the claim does not require the flat cover plate and flat back plate to be part of the large liquid crystal displays.

Kunz discloses a method of bonding a semiconductor chip to a mounting surface by an adhesive (figures 5 and 6) wherein the bonding surface of the semiconductor is flat (column 4, lines 6-7) and the mounting surface being silver plating (column 5, line 47). Figure 6 of Kunz shows that the semiconductor chip

has the surface area smaller than the mounting surface. The adhesive material is applied over the entire area of the semiconductor chip in a manner eliminating voids within the adhesive material (column 7, lines 58-61). Likewise, it is clearly apparent that the adhesive material is void-free. Since Kunz is applying an adhesive having a starfish shape that is similar to the X pattern of the applicant adhesive onto the support surface, the adhesive in Kunz would inherently exhibit a wavelike undulating profile at the edges of the semiconductor chip surface when the mounting surface and the semiconductor chip are mated to each other. It is the examiner's position that Kunz anticipates the claimed subject matter.

Yoshida discloses a method of bonding a semiconductor chip to a lead frame pad by an adhesive wherein the semiconductor chip has the surface area smaller than the led frame pad (figure 4). The adhesive material is applied over the entire area of the semiconductor chip in a manner eliminating voids within the adhesive material (abstract). Likewise, it is clearly apparent that the adhesive material is void-free. Because the X arrangement of the adhesive spots in Yoshida on the led frame pad for contact with the bonding surface of the semiconductor chip (figures 10J and 10L) is similar to the X pattern of the applicant adhesive, a wavelike undulating profile at the edges of the semiconductor chip surface would be inherently present in the adhesive of Yoshida when the pad and the semiconductor chip are mated to each other. It is the examiner's position that Yoshida anticipates the claimed subject matter.

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5. Claim 31, 32, and 34-37 are rejected under 35 U.S.C. 102(b) as anticipated by Iwashita et al (US 4,715, 686). Iwashita discloses a liquid crystal display device comprising a flat glass plate **1** being bonded to a flat polarizing plate **5** by an adhesive layer **9** wherein the polarizing plate has a smaller surface area than that of the glass plate and the adhesive is located between the plates over the entire area of the smaller area surface (figure 1, column 3, lines 37-60). Iwashita teaches the assembly having no air bubbles in the adhesive tear (column 5, lines 23-25). Likewise, it is clearly apparent that the adhesive is void-free. Iwashita teaches the adhesive being an acrylic adhesive, silicone (example 4). Iwashita is silent as to the wave undulating behavior, and viscosity of the adhesive. However, an article of Iwashita meets all the limitations of structure recited and Iwashita is using the same adhesive material to bond the two flat plates together, the wave undulating behavior and the viscosity would be inherently present.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
7. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwashita et al (US 4,715, 686) in view of Pierson (US 5,808,710). Iwashita is silent as to the urethane acrylate adhesive. Pierson discloses urethane acrylate having been

used as an adhesive in fabricating the liquid crystal displays (LCD). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the urethane acrylate adhesive to bond the glass plate to the polarizing plate together because the urethane acrylate adhesive is a typically transparent adhesive material useful in LCD assembly.

***Allowable Subject Matter***

8. Claim 33 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art discloses or teaches an article for fabricating large LCD having a recited structure as set forth in the claim 31 wherein the flat plates are glass.

***Response to Arguments***

9. The art rejections over Wolkowicz have been overcome by the present amendment and response.
10. The art rejections over Kunz or Yoshida are maintained because of the following reasons. At the first place, the recitation "for fabricating large liquid crystal displays" is treated as the intended-use limitation. It has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art die attachment satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). In addition, the language of the claim does not require the flat cover plate and flat back plate to be part of the large liquid crystal displays. Second,

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Applicants argues that a void-free bond line is not necessarily achieved in the process suggested by Kunz or Yoshida. This is not found persuasive. Kunz discloses the adhesive material is applied over the entire area of the semiconductor chip in a manner eliminating voids within the adhesive material (column 7, lines 58-61). Yoshida teaches the adhesive material is applied over the entire area of the semiconductor chip in a manner eliminating voids within the adhesive material (abstract). Likewise, it is clearly apparent that the adhesive material disclosed in Kunz or Yoshida is void-free. Finally, Applicants arguments are not commensurate in scope with the claim. Applicants state that the void – free bond line is not necessarily achieved when dealing with large area surfaces and go on to explain in details the different of the die attach and LCD applications from each other due to the rheology of the adhesive. However, there is nothing in the claim specific or defined about the size of the cover and back plates as well as the viscosity and self-leveling of the adhesive.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory

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action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Tue-Fri, 8:30-6:00 and on alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV  
October 21, 2002

  
TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700